

NEW CULICIDAE FROM THE SUDAN

BY

FRED. V. THEOBALD, M.A., F.E.S., Hon. F.R.H.S.

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Amongst a large collection of Culicidae sent me by Mr. Harold King, from the Sudan, the following undescribed species have so far been found.

A considerable number of *Uranotaenias* and others have as yet only been partially examined, and will be reported upon later. The types of these new species are in the collection of the Liverpool School of Tropical Medicine.

MUCIDUS NIGERRIMUS, nov. sp.

♂. *Head*: Brown, covered with mealy grey scales, a narrow white border around the large dark eyes, a tuft of long grey curled scales and long, thin, straight ones projecting forwards between them. *Antennae* brown, with deep brown plume hairs; basal segment bright brown, with small flat white scales. *Palpi* deep brown, with black scales irregularly disposed and scattered white scales, especially at the junctions of the last two segments, forming distinct bands; plume hairs deep brown, apical segment slightly longer than the penultimate; longer than the proboscis by about two-thirds of the last segment. *Proboscis* with scattered dark and light scales, as in the palpi, a distinct joint about the middle, the apical half being thinner than the basal.

Thorax: Brown, clothed with irregular scattered grey scales, most dense in the median area and around the space before the scutellum and across the thorax between the wings. *Scutellum* very densely clothed with loose grey scales; the scantier scaled areas have long, thin, narrow-curved, pale scales, not typical *Mucidus* ones, which also form a dense scaled median area in front. *Pleurae* very deep brown, with patches of flat white scales. *Metanotum* rich brown.

Abdomen: Deep brown, clothed with alternate patches of black and white scales, forming marked black and white outstanding lateral patches; hairs dense, pale golden; the segments dorsally, with flat, loose white scales at the base of the segments, in the middle, with mixed dark and creamy ones apically and at the sides more evenly disposed; the apical segments more white scaled, the last but one with two black spots. Basal lobes of genitalia, with black scales; claspers long, curved, dark.

Legs: Fore femora thin, with dark and pale scales, the former predominate, apex white; fore tibiae with a dull white basal band, followed by a black area with outstanding scales and then a snow-white area with outstanding scales; tarsi thin, yellow, slightly darkened apically; mid legs with the femora with dense outstanding scales, black predominating, with three narrow white bands and white apex; tibiae with white basal and apical bands, black in middle, with a narrow median white band, very shaggy; tarsi thin and yellow; hind legs with femora and tibiae as in the mid, but not quite so shaggy or dark; first tarsal black scaled, with narrow basal white band, yellowish at apex, very shaggy; remaining tarsals white basally, yellow apically, scales more or less outstanding; the white predominate on the last three segments; hind ungues equal and uniserrate, fore and mid with the larger claw bidentate, the smaller unidentate (viewed in one direction the second or basal tooth of the larger claw seems to stand out laterally, looking like three claws).



FIG. 1. *Mucidus nigerrimus*. n. sp. ♂
Fore ungues

Wings: Mostly dark scales, with a few scattered white ones; first fork-cell considerably longer and narrower than the second, its base nearer the base of the wing, its stem as long as the cell, stem

of the second longer than the cell; third long vein very close to the second; cross-veins thick, clouded, all three close together; fringe with eight white spots; the scanty dark scales give the wings a spotted appearance. *Halteres* yellow, knob black at the apex.

Length. 7 mm.

Habitat. Wadelai, Lado District, Sudan. (H. King, 8/6/11.)

Observations. Described from a perfect male taken from undergrowth around trees on a grassy slope near the Nile. It was pointed out as being a distinct species by Mr. King. It is a very dark species, easily distinguished by the leg ornamentation.

CHRYSOCONOPS NOCTURNUS, nov. sp.

Head golden-yellow; proboscis and palpi golden-yellow, black at their apices. Thorax shiny black, with scattered golden scales; pleurae mostly brown, a long yellowish area before wing roots. Abdomen entirely golden-yellow. Legs golden-yellow, femora with some scattered dark scales and narrow dark apical bands; fore and mid tibiae with scattered dark scales and a small dark apical band; hind tibiae with narrow basal and broad median and apical dark bands; fore and mid tarsi golden-yellow, unbanded, last two tarsals dark; hind legs with metatarsi, first, second and third tarsals with broad apical black bands, last all dark. Wings yellowish, all the veins with dusky brown and dull yellowish scales. Male palpi with three dark rings, legs darker than female and traces of dark apical abdominal bands.

♀. *Head:* Integument greyish, clothed with golden-yellowish narrow-curved scales and dark, thin, upright, forked scales; eyes silvery. *Antennae* brown, basal segment pale. *Palpi* and *proboscis* golden, black scales at their apices, with black chaetae and some scattered black scales on the apical half of the proboscis, also some black scales below, at the base (one specimen shows some scattered dusky scales over the palpi).

Thorax: Shiny black, with scattered golden-yellow, thin, narrow-curved scales, and black chaetae; prothoracic lobes projecting, golden-yellow, roundish and mammillate. *Scutellum* black, shiny, with golden narrow-curved scales and dark border bristles. *Metanotum* black. *Pleurae* deep brown with some

patches of flat white scales and a yellow, longish area at the base of the wings; a short blunt process appears on each side of the front region of the mesonotum. (Fig. 2. B.)

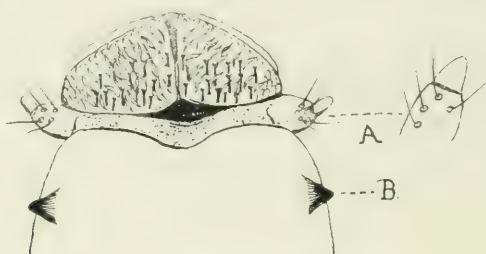


FIG. 2. *Chrysoconops nocturnus*. n. sp.

A. = Prothoracic lobe. B. = Mesonotal process.

Abdomen: Steely, entirely clothed with bright golden-yellow scales and yellow hairs; venter golden yellow.

Legs: Golden-yellow, femora with some scattered black scales and black apices, fore and mid tibiae with scattered black scales and black apices, hind with narrow dark basal rings, a broad black median and apical rings; fore and mid tarsals unbanded, the last two dusky; hind tarsals with broad apical black bands; chaetae dark; ungues dark, equal and simple.

Wings: Yellowish with scattered dusky and yellow scales, appearing mainly dusky in certain lights; first fork-cell longer and narrower than the second, its base nearer the base of the wing, its stem about one-third the length of the cell; stem of the second fork-cell not quite so long as the cell; posterior cross-vein about twice its own length distant from the mid.

Halteres pale yellow.

Length. 5 mm.

♂. *Palpi* with the last two segments nearly equal, the apical one mostly black, apex of the next two dark; scanty hair tufts, brown. *Antennae* banded yellow and brown with rich brown plume hairs.

Legs: As in ♀, but more dark scales above on the femora and tibiae.

Abdomen: With some dark metallic scales on the apices of the segments, almost forming bands, apical segment dark, with dark

chaetae and dark claspers. Fore and mid ungues very unequal, the larger uniserrate; hind ungues rather long, curved and simple, all black.

Length. 5 mm.

Habitat. Bier Terab (Shambe to Wau road), Bahr-el-Ghazal Province; Lau (Shambe to Wau road); Lau to Ateiba (Shambe to Wau road) and Mayo to Melangot (Naam River), Bahr-el-Ghazal Province. (H. King, 30.12.10, 3.1.11, 10.1.11.)

Observations. Described from three ♀'s and one ♂. The specimens were taken by Mr. King in a rest house after dark and out of doors after dark. It is a vicious blood-sucker. This species comes near *C. nigrithorax*, Theob., which it superficially resembles, but it is distinct, as pointed out by Mr. King. The tibiae are not all black, as in *C. nigrithorax*; the proboscis has a few black scales at the base, but is not deep black on the apical half, as in *C. nigrithorax*. The marked prothoracic lobes also differ, and the blunt lateral processes on the mesonotum are also characteristic.

REEDOMYIA SUDANENSIS, nov. sp.

Head dark, a black patch and then a pale patch on each side, middle with golden scales and black upright scales; eyes silvery and black; palpi, proboscis and antennae deep brown. Thorax deep rich brown with scattered small golden scales; scutellum silvery white; pleurae blackish-brown to brown with white puncta. Abdomen deep blackish brown, unbanded, with small basal lateral white spots; venter with basal yellow scales, the segments with blackish apical borders. Legs deep brown, unbanded, hind femora and tibiae with apical white spots, seen also in fore and mid legs to some extent; chaetae golden.

♀. *Head:* Black and shiny with scattered narrow-curved pale golden scales in the middle, with black upright forked scales, a patch of flat black scales at the sides and then flat creamy white ones. *Eyes* silvery around the upper border and down to the antennae. *Palpi* black. *Proboscis* deep brown. *Antennae* deep brown with pale pubescence and dark hairs, basal segment and base of second paler.

Thorax: Deep rich brown, with small narrow-curved scattered

golden scales, a small patch of broader creamy ones in front of the root of each wing; chaetae dark. *Scutellum* with flat silvery white scales and numerous rather irregular dark border bristles. *Metanotum* dark with a greyish sheen. *Pleurae* black, with patches of white scales.

Abdomen: Black, unbanded, with small basal white lateral spots, dark border bristles with dull golden apical reflections; venter with basal creamy yellow areas, dark apical ones.

Legs: Deep brownish-black, unbanded, apices of femora and tibiae white, especially in the hind legs, chaetae golden, showing markedly against the dark legs; ungues of fore and mid legs equal and uniserrate, of hind equal and simple.

Wings: First fork-cell longer and narrower than the second, its base nearer the base of the wing than that of the second, its stem about half the length of the cell; stem of the second fork-cell not quite as long as the cell; posterior cross-vein about its own length distant from the mid.

Halteres with pale stems and fuscous knobs, with some pale scales on the latter.

Length. 4 to 4.5 mm.

Habitat. Yidu, Lado District, two ♀'s; Khor Nambiri, Lado District, one ♀; Nyumbe, Lado District, one ♀; Such River, one ♀; 12 to 14 miles from Hierallah on road to Bundle, Lado District. (H. King, 22/3/11, 2/4/11, 27 and 31/5/11.)

Observations. Described from six ♀'s. The marked head adornment is very noticeable. In one ♀ there are traces of the thoracic scales forming two dorsal spots, but the deep rich brown with fine golden scale dusting is most noticeable in all six specimens. It comes near *R. bipunctata*, Theob., but the scutellum is snowy white, not pale yellowish, and the thorax has golden, not bronzy scales; from *R. biannulata*, Theob., it can be told by the apex of the abdomen not being white and from *R. neobiannulata*, Theob., by having no basal white abdominal bands.

Mr. King's notes are as follows:—

'Khor Nambiri (Kapei to Yei), Lado District, 2/4/11. A small khor containing pools, and shaded by trees and bushes.'

'Nyumbe, Lado District, 27/5/11. Amongst undergrowth in a grove by a khor.'

'Yidu, Lado District, 31/5/11. From undergrowth on the bank of a typical *Glossina palpalis* khor.'

'12-14 miles from Hierallah on the road to Bundle, Lado District, 22/3/11. In a deep, heavy timbered ravine.'

KINGIA MACULOABDOMINALIS, nov. sp.

Head black, silvery white on middle and sides; proboscis black; palpi black, snow white tips; antennae deep brown, black at base with white scales; eyes silvery. Thorax rich deep brown, a large patch of snowy white on each side, a small one over the wings, and lines of yellowish scales posteriorly; scutellum snowy white in some lights, grey in others; pleurae deep brown with white puncta. Abdomen deep black, unbanded, 5th to 7th segments with silvery white median spots, and with basal lateral white spots. Legs dark brown, femora with traces of two white spots; first and second tarsals only with narrow basal pale bands (fore and mid legs).

♀. *Head*: Black, clothed with flat black scales, flat white ones in the middle and a patch of white ones on each side; chaetae black. *Palpi* black scaled with snow white scales apically. *Proboscis* black. *Antennae* deep brown, the basal segment with flat white scales, the second segment with outstanding dark scales, hairs deep brown.

Thorax: Shiny black with deep bronzy black, narrow-curved scales, two large patches of snow white flat scales about the middle of the mesonotum, a small patch of narrow-curved white ones just in front of the roots of the wings, a short line of pale creamy scales running up to the bare space before the scutellum, and a line of yellowish scales on each side parallel to it and reaching the scutellum; chaetae black. *Scutellum* black, the flat scales are glassy and snow white in some lights, grey to almost black in others; border bristles blackish brown, four to the mid lobe. *Metanotum* deep chestnut-brown. *Pleurae* deep brown with silvery white puncta.

Abdomen: Black with basal snow white spots, the fifth with two median silvery white spots, the sixth with one median snow white spot, the seventh with the spot almost basal, a small one also on the apex; border bristles deep brown; venter dark brown.

Legs: Blackish-brown, femora with two white spots; first and second tarsals of fore and mid legs with basal creamy white bands, others dark in fore and mid legs (hind legs missing); ungues equal and uniserrate.

Wings: First fork-cell longer and narrower than the second, its stem more than half the length of the cell, stem of the second fork-cell nearly as long as the cell; posterior cross-vein rather more than its own length distant from the mid; scales brown, rather large.

Length. 4 mm.

Habitat. Khor Kokbwa (Yei to Abba), Lado district. (H. King, 13/4/11.)

Observations. Described from a single ♀ taken by a rocky, shady stream; the hind legs missing. A very marked species readily distinguished by the thoracic and abdominal adornment.

AEDIMORPHUS QUINQUEPUNCTATA, nov. sp.

Head black and silvery white; palpi, proboscis and antennae deep brown. Thorax rich brown with four silvery white spots and a small fifth white patch before the bare space in front of the scutellum, which is also silvery white scaled; pleurae deep brown with silvery white puncta. Abdomen dusky black, unbanded, with basal lateral silvery white spots; venter with basal silvery white lateral spots also. Legs dark, unbanded, with venter of femora pale at the base, especially on the hind legs where most of the venter is pale, femora of hind legs, each with a snow white apex and a spot before the apex.

♀. *Head*: Black with a small median area of dull creamy narrow-curved scales, with black upright forked scales, a patch of flat snow white scales on each side in front, then flat black scales, then white and then black ones again. *Clypeus*, *proboscis*, *palpi* and *antennae* deep brown to almost black.

Thorax: Dull black with small, narrow-curved, dull brown scales and four patches of small flat snow white scales, two in front near the head, two in the middle of the mesonotum, also a fifth patch before the bare space in front of the scutellum, and a small spot below in front of each wing; chaetae black. *Scutellum*

black with snow white flat scales forming three patches, border-
bristles black, four large ones to the mid lobe. *Metanotum* deep
black; pleurae rich brown with six snow white puncta.

Abdomen: Black with dull golden border bristles and basal
'snow white lateral patches, the scales somewhat outstanding; venter
black with basal snow white lateral spots.

Legs: Almost black, femora and tibiae with apical white spots
most prominent on the hind legs, each of the hind femora with a
round snow white spot near the apex and whitish on most of the
venter; ungues of fore and mid legs equal and uniserrate, hind
equal and simple.

Wings: With a white scaled spot at the base and with the
first fork-cell slightly longer, but no narrower than the second fork-
cell, its stem more than half the length of the cell; stem of the
second fork-cell about two-thirds the length of the cell; posterior
cross-vein less than its own length distant from the mid; sixth
long vein markedly curved. *Halteres* with ochreous stem and
ochreous and dusky knobs.

Length. 3.5 mm.

Habitat. Alenga and Matalee, Lado District. (11/5/11 and
28/5/11, H. King.)

Observations. Described from two ♀'s. It comes near
Aedimorphus punctithorax, Theob., but differs in having five, not
six, thoracic white spots.

CULICELSA CENTROPUNCTATA, nov. sp.

Head brown with pale scales and two dark areas on each side
separated by a line of white; palpi, proboscis and antennae deep
brown. Thorax with brown and silvery white scales, the latter
forming two spots in front, a median and more or less pronounced
posterior area; scutellum entirely white scaled. Abdomen black
with median white basal patches and basal white lateral spots;
venter mostly creamy scaled. Legs black, with pale chaetae,
especially marked on the tibiae, femora and tibiae with apical white
to yellow bands, tarsi with narrow basal white bands to all the hind
segments, and all but the last two in the fore and mid.

♀. *Head*: Clothed with almost white narrow-curved scales in
the middle and dark, thick, upright forked scales, then a few flat

white scales, then a black patch, then white, then black again; chaetae long and deep brown, except for some golden ones between the eyes. *Palpi*, *proboscis* and *clypeus* almost black. *Antennae* black with pale internodes, basal segment dark and testaceous, the second with flat black scales; verticillate hairs black.

Thorax: Deep brown with mixed brown and silvery white narrow-curved scales, the latter forming two spots in front, a border around the mesothorax near the head, denser behind, and as a line above each wing; chaetae long and black. *Scutellum* with narrow white curved scales. *Metathorax* black. *Pleurae* deep brown with patches of flat white scales.

Abdomen: Black, the segments with median basal patches of white scales, and patches of basal lateral white scales which become median apically, posterior border bristles golden; venter mainly creamy scaled.

Legs: Almost black, femora and tibiae with apical pale spots, base of first and second fore and mid tarsals with white bands; in the hind legs all the tarsals have basal white bands, bristles dark and golden; fore and mid ungues equal and uniserrate, hind equal and simple.

Wings: With short fork-cells, the first longer and narrower than the second, its base a little nearer the base of the wing, its stem nearly as long as the cell; stem of the second longer than the cell; posterior cross-vein twice its own length distant from the mid. *Halteres* all pale ochreous.

Length. 4 mm.

♂. *Head*: Pale scaled with two dark patches of flat scales surrounded by white flat scales. *Palpi* a little longer than the proboscis, black, with the last two segments nearly equal and with small basal white bands, a creamy band at the base of the third segment and a pale area at their base, on the last two segments are brown hair-tufts on one side, and on the apex of the penultimate is a long golden chaeta. *Antennae* banded brown and grey, plume hairs flaxen brown.

Thorax, abdomen and legs as in the ♀; fore and mid ungues, unequal, uniserrate, hind equal and simple.

Length. 4.5 mm.

Habitat. Alcholi, Lado District and River Mewri, Mongolla Province. (25/5/11, ♀; 21/3/11, ♂, H. King.)

Observations. Described from a perfect ♂ and ♀, although taken in different places undoubtedly the same species. It is a most marked species and is related to those so far placed in the somewhat obscure genus *Culicelsa*, Felt, obscure only for the fact that we cannot fix any definite characters, yet all the species included have a very marked similar appearance.

HEPTAPHLEBOMYIA KINGII, nov. sp.

Head black with pallid scanty scales, proboscis ochreous black at the base and apex; antennae and palpi dark brown. Thorax rich brown, somewhat paler in the middle, two snow white spots in front near the head and two on the middle of the mesothorax; scutellum snow white scaled; pleurae deep brown with snow white puncta.

Abdomen deep brown, unbanded, with basal lateral white spots; venter with pale basal bands. Legs unbanded, deep brown, femora and tibiae with apical white spots. Wings with seventh vein very close to the wing border.

♀. *Head*: Black with pale creamy, narrow-curved scales in the middle, becoming white in front, creamy flat lateral scales, white at eye border near the white narrow ones; upright forked scales black. *Antennae*, *palpi* and *clypeus* almost black. *Proboscis* ochreous brown, black at the base and apex.

Thorax: Black with narrow-curved bronzy brown scales, two median bare parallel lines, four round spots of snow white narrow-curved scales, two in front near the head, two somewhat larger and wider apart about the middle of the thorax; the scales become paler towards the scutellum, being pale golden in some lights; chaetae brown. *Scutellum* black with dense snowy white curved scales, deep brown border bristles, six to the mid lobe; metanotum black with grey reflections. *Pleurae* deep brown with patches of rather long, flat, white scales.

Abdomen: Steely, clothed with black scales, with small snow white basal lateral spots; border bristles brown with golden reflections apically; venter black with basal white bands.

Legs: Dark brown, unbanded, femora pale at the base, apices of femora and tibiae white on the hind legs, traces in the mid, scarcely perceptible in the front pair; unguis equal and simple.

Wings: With brown scales; first fork-cell considerably longer and a little narrower than the second fork-cell, its base nearer the base of the wing, its stem less than one-fourth the length of the cell, stem of the second posterior not quite as long as the cell; posterior cross-vein not quite twice its own length distant from the mid; the seventh scaled vein close to the inner border of the wing. *Halteres* pale with fuscous knobs.

Length. 4 mm.

Habitat. Nyumbe, Lado District; Alenga, Lado District. (27 5 11, Nyumbe; 28 5 11, Alenga.)

Observations. Described from two perfect ♀'s. It can be distinguished from the allied *H. argenteopunctata*, Ventrillon, by the abdomen having only small basal lateral spots and not ornamented as in Ventrillon's species from Madagascar; the antennae are also black in the ♀, not yellowish, and the thoracic adornment differs. The scaled seventh vein is well marked in both ♀'s. One was taken from a small hole, containing water, in a tree, the other from tall grass near a khor.